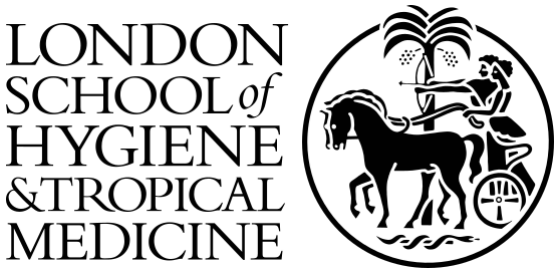

Scabies outbreaks in care homes for the elderly – Authors' reply

Stephen L Walker SL, Middleton J, Cassell JA, on behalf of all the authors.
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Antoine Petit and colleagues agree with a major finding of our prospective study,[1] diagnosing scabies in elderly people is challenging because clinical presentation differs from textbook descriptions. However, they express concern about rates of mite visualisation by dermatoscopy and confirmatory microscopy of skin scrapings. We reported positive dermatoscopy in seven (11%) of 61 individuals diagnosed with scabies, two of which cases were crusted. Three (43%) of seven had positive microscopy (done 1 day after sampling), including one crusted case. Thus, most diagnoses were based on clinical signs rather than visual confirmation of mite presence, a stated limitation.

As we did, Petit and colleagues contrast our study with two others.[2,3] A look at these studies' characteristics might in part explain differences in visualisation rates, whilst results show they are not as different as implied regarding confirmatory microscopy of positive dermatoscopy. Petit and colleagues cite their hospital-based study[2] of dermatoscopy and immediate skin scraping microscopy in individuals (mean age 33 years, SD 18) suspected of having scabies by a dermatologist. In 122 (51%) of 236 patients, dermatoscopy took more than 5 min. Despite this, 35 (26%) of 133 patients with negative microscopy on initial scraping had positive dermatoscopy. Walter and colleagues[3] did a study in Brazil (median age 14 years, range 2–72). Dermatoscopy was limited to 5 min duration and microscopy was done within 3 h. 18 (51%) of 35 dermatoscopy positive individuals diagnosed with scabies

had negative miscroscopy. Our study's proportion was four (57%) of seven dermatoscopy positive cases. A further 39 (53%) of 74 dermatoscopy positive individuals were deemed to be false positives by Walter and colleagues. The populations, settings, methods, and limiting factors in both studies were very different to our study of scabies outbreaks in care homes for elderly people (median age 87 years, IQR 82–92; 157 (68%) of 230 had dementia; 22 (10%) of 230 were bedbound). Time available to do dermatoscopy influences results. Unfortunately, very prolonged skin and dermatoscopy examinations are not always possible in this population during outbreaks.

Our case definitions attempted to define infestation likelihood as definite, probable, or possible. These case definitions appeared to do well because at scabies treatment follow-up, all but three examined cases had improved. The definitions are further supported by their similarity to subsequently developed international consensus criteria.[4]

Our work demonstrates how seriously we believe in careful, thorough clinical examination and we emphasised that the value of dermatoscopy in outbreaks needs further assessment, including predictive values affected by prevalence of infestation.

The role of mass treatments for scabies outbreaks needs further research. We agree with Petit and colleagues that treating only those infested would be ideal. Yet, without robust diagnostic tests, identification of all such individuals is unlikely, some of whom should be expected to be asymptomatic. Our study, and other evidence, suggest piecemeal or delayed approaches to scabies outbreaks in care homes prolongs transmission.[5,6]

SLW was one of the 34 dermatologists who contributed to the 2018 IACS Criteria for the Diagnosis of Scabies. JM and JAC declare no competing interests.

References

1 Cassell JA, Middleton J, Nalabanda A, et al. Scabies outbreaks in ten care homes for elderly people: a prospective study of clinical features, epidemiology, and treatment outcomes. *Lancet Infect Dis.* 2018; 18: 894-902

2 Dupuy A, Dehen L, Bourrat E, et al. Accuracy of standard dermoscopy for diagnosing scabies. *J Am Acad Dermatol.* 2007; 56: 53-62

3 Walter B, Heukelbach J, Fengler G, et al. Comparison of dermoscopy, skin scraping, and the adhesive tape test for the diagnosis of scabies in a resource-poor setting. *Arch Dematol.* 2011; 147: 468-473

4 Engelman D, Fuller LC, Steer AC for the International Alliance for the Control of Scabies Delphi panel. Consensus criteria for the diagnosis of scabies: A Delphi study of international experts. *PLoS Negl Trop Dis.* 2018; 12: e0006549

5 Kinyanjui T, Middleton J, Güttel S, Cassell J, Ross J, House T. Scabies in residential care homes: Modelling, inference and interventions for well-connected population sub-units. *PLoS Comput Biol.* 2018; 14: e1006046

6 Hewitt KA, Nalabanda A, Cassell JA. Scabies outbreaks in residential care homes: factors associated with late recognition, burden and impact. A mixed methods study in England. *Epidimiol Infect.* 2015; 143: 1542-1551